

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ORDER NO. 88-032

NPDES NO. CA0029319

WASTE DISCHARGE REQUIREMENTS FOR:

SHELL OIL COMPANY
2001 DECOTO ROAD
UNION CITY, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. The Shell Oil Company (hereinafter called the discharger) operates a retail fuel service station located at 2001 Decoto Road, Union City, California. By application dated August 10, 1987, the discharger has applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. Investigation shows that the groundwater beneath the site and an adjacent lot has been polluted by floating product and dissolved constituents, including benzene, toluene, xylene, and petroleum hydrocarbons. The pollution is the result of the discharge of an unknown amount of fuel from underground storage tanks on the site. As no catastrophic loss of fuel has been identified through inventory records, it is assumed that the discharge occurred over an unknown period of time prior to June, 1986, when the tanks were removed from use.
3. Groundwater monitoring data indicates that the extent of the pollution has not yet been determined. Further hydrogeologic investigation is needed to fully define the extent of the pollution.
4. The discharger seeks to remediate and prevent further migration of pollutants by groundwater extraction and treatment. The treatment system is designed to initiate cleanup while the discharger continues the subsurface investigation. Data collected during the first 30 days of system performance will be used to evaluate the effectiveness of the pump and treat system. A report describing this performance evaluation will be submitted within 90 days of system startup, and will include a work plan for additional hydrogeologic investigation. Additional groundwater extraction may be necessary to fully control and cleanup the

pollution.

6. Waste 001 will consist of a maximum flow of 43,000 gallons per day (gpd) under initial operating conditions and following any start-up of the treatment system. Under average operating conditions, the flow will be approximately 22,000 gpd. The polluted groundwater will be pumped from extraction wells, treated using an oil/water separator followed by carbon filtration, and discharged to Line M of Alameda County Public Works Zone 3A, Alameda Creek and the San Francisco Bay.
7. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Alameda Creek and San Francisco Bay and contains discharge prohibitions applicable to shallow water discharges in these areas.
8. The existing and potential beneficial uses of Alameda Creek include:
 - Agricultural Supply
 - Groundwater recharge
 - Fish spawning and migration
 - Wildlife Habitat
 - Cold and warm fresh water habitat
 - Contact and non-contact recreation
9. The existing and potential beneficial uses of San Francisco Bay near the point of discharge of Alameda Creek include:
 - Industrial service supply
 - Contact and non-contact recreation
 - Navigation
 - Commercial and sport fishing
 - Preservation of rare and endangered species
 - Fish spawning and migration
 - Wildlife habitat
 - Shellfish harvesting
 - Estuarine habitat
10. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, deadend slough, similar confined water, or any immediate tributary thereof."
11. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 10 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
12. Exceptions to the prohibitions referred to in Finding 10

are warranted because the discharge is an integral part of a program to cleanup contaminated groundwater and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would affect beneficial uses.

13. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's dewatering and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.
14. Effluent limitations of this Order are based on the Basin Plan, State Plans and Policies, and best engineering judgement.
15. The issuance of waste discharge requirements for the discharge is exempt from the provisions of Chapter 3, (commencing with Section 15000), Division 6, Title 14 (Natural Resources) of the California Administrative Code (CEQA) pursuant to Section 13389 of the California Water Code.
16. The issuance of waste discharge requirements for the discharge is categorically exempt from the provisions of Chapter 3, (commencing with Section 15000), Division 6, Title 14 (Natural Resources) of the California Administrative Code (CEQA) pursuant to Section 15107 of that Chapter (Class 7: Actions by Regulatory Agencies for Protection of Natural Resources).
17. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
18. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and Guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The effluent at the point of discharge to Line M of

Alameda County Public Works Zone 3A shall not contain constituents in excess of 1% of the influent concentrations, or in excess of the following limits, whichever is less:

<u>Constituent</u>	<u>Unit</u>	<u>Instantaneous Maximum</u>
benzene	ug/l	0.5
toluene	ug/l	0.2
xylenes	ug/l	0.5
ethylbenzene	ug/l	0.5
total petroleum hydrocarbons identified as gasoline	ug/l	50
lead	ug/l	5.6

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. In any representative set of samples, the discharge of waste shall meet the following limit of quality:

TOXICITY:

The survival of test fishes acceptable to the Executive Officer in 96-hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or water fowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following

limits to be exceeded in waters of the State in any place within one foot of the water surface:

- a. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
 - b. Un-ionized Ammonia: The concentration of un-ionized ammonia shall not exceed a maximum at any time of 0.4 mg/l as N and an annual median of 0.025 mg/l as N.
 - c. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentrations (s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.
3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

Provisions

1. The discharger shall comply with all sections of this Order immediately upon discharge.
2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
3. The discharger shall notify the Regional Board if any activity has occurred or will occur which would

result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

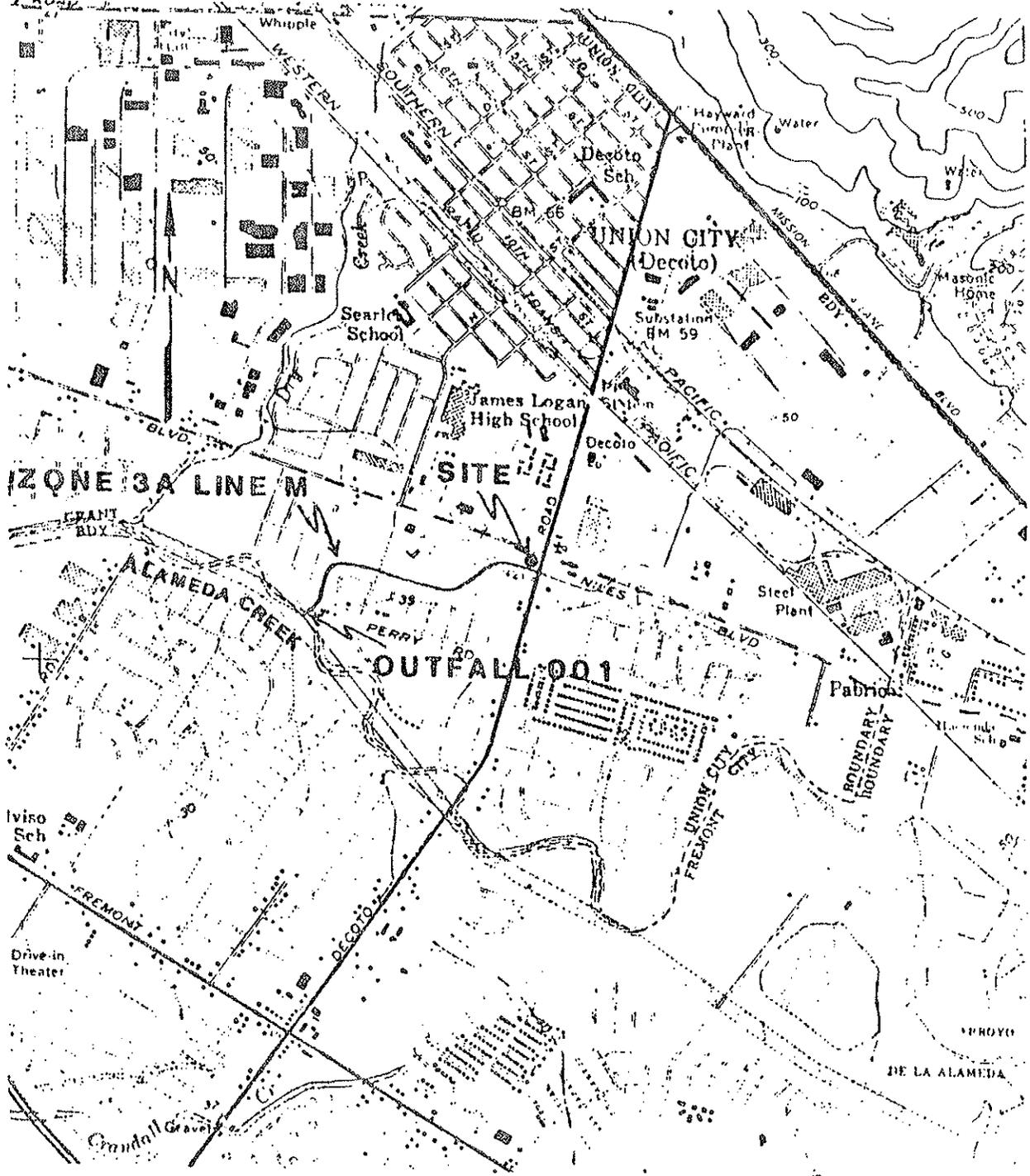
4. The discharger shall submit an operation and maintenance plan acceptable to the Executive Officer if chemical additions are added to the waste stream for the control of scaling or biological growth.
5. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986, except items B.2, B.3, C.8, and C.11.
6. This Order expires March 16, 1993 and the discharger must file a report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
7. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act, or amendments thereto, and shall become effective at the end of ten days from date of hearing provided the Regional Administrator, U.S. Environmental Protection Agency, has no objection.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on March 16, 1988.

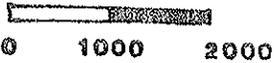

ROGER B. JAMES
Executive Officer

Attachments:

Standard Provisions & Reporting Requirements, December 1986.
Self-Monitoring Program
Location Map
Site Map



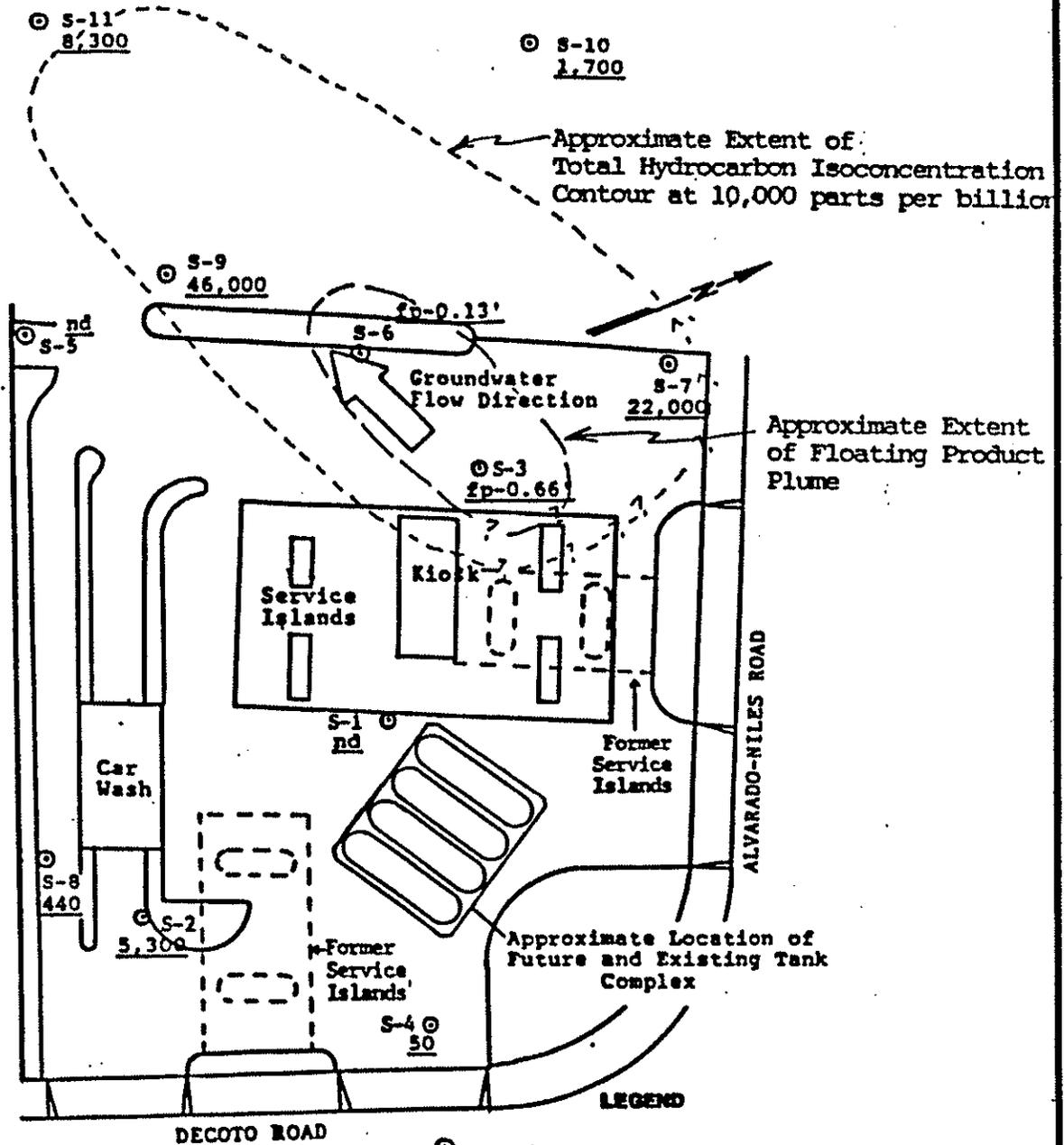
SCALE 1 : 24,000



USGS MAP : NEWARK

STATE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION		
LOCATION MAP SHELL OIL CO. SERVICE STATION 2001 DECOTO ROAD UNION CITY, ALAMEDA COUNTY		
DRAWN BY: GSZ	DATE: 1/22/88	DRWG. NO. 001

Storm Drainage Channel



⊙ Monitoring Well Location and
60 Dissolved Hydrocarbon Concentration in
parts per billion, 5/31/87 and
8/10,11/87, nd-none detected
fp-0.66'
Floating Product Thickness (feet)

Approximate Scale: 1" = 40'

STATE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION		
SITE MAP SHELL OIL CO. SERVICE STATION 2001 DECOTO ROAD UNION CITY, ALAMEDA COUNTY		
DRAWN BY: GSZ	DATE: 1/22/88	DRWG NO. 001

Part B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station

I-1 At a point in the groundwater extraction/
treatment system immediately prior to any
treatment.

B. EFFLUENT

STATION

E-001 At a point in the groundwater extraction/
treatment system immediately following
treatment at a point before discharging into
Line M of Alameda County Public Works Zone 3A.

C. RECEIVING WATERS

Station

C-1 At a point in Line M at least 100 feet but
no more than 200 feet down stream from the
point of discharge. If, due to low flow
conditions, it is not possible to obtain a
water sample from Line M in the reach 100 to
200 feet downstream from the point of
discharge conditions, then the sample shall
be taken from water ponding in Line M at the
point of discharge. This condition shall be
noted in the periodic reports submitted to
the Board.

II. MISCELLANEOUS REPORTING

At least 30 days before any chemicals are utilized in or
added to the treatment system, they shall be reported to
the Executive Officer for review and approval.

III. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in
Table 1 (attached).

IV. MODIFICATIONS TO PART A

All items of Self Monitoring Part A, dated December 1986 and as modified January 1987 shall be complied with except for the following modifications:

A. Delete Sections D.2.d, D.2.g, E.1.e, and E.4.

B. Add the following as Section F.4:

"4. A tabulation shall be maintained showing the total quarterly volume of spent activated carbon (in cubic feet) from each treatment unit and the disposal site location.

C. Section G.4.b shall be changed to read as follows:

Compliance Evaluation Summary

"Each report shall be accompanied by a compliance evaluation summary sheet prepared by the discharger. The report format will be prepared similar to the example shown in APPENDIX A (attached). The discharger will prepare the format substituting for the example parameters those parameters and requirement limits for influent, effluent and receiving water constituents specified in the permit."

D. The first paragraph of Section G.4.d. shall be changed to read as follows:

"Each report shall include tabulations of the results from each required analysis specified in Part B by date, time, type of sample, detection limit, station, and shall be signed by the laboratory director. The report format will be prepared similar to the examples shown in APPENDIX B, substituting those parameters specified in the permit for the parameters given in the example."

E. Information requested under Section G.4.e shall be prepared in a format similar to EPA Form 3320-1 and shall be submitted only to the Regional Board.

F. Section G.5 shall be modified to read as follows:

Annual Reporting

By January 30 of each year, the discharger shall submit in place of the end of the year monthly report, an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the

report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements. The report format will be prepared by the discharger using the examples shown in APPENDIX C (attached) substituting those parameters specified in the permit for the parameters given in the example and should be maintained and submitted with each regular self-monitoring report."

I, Roger B. James, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharger requirements established in Regional Board Order No. 88-032.
2. Was adopted by the Board on March 16, 1988.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or Regional Board.



Roger B. James
Executive Officer

Attachments: Table 1
Appendices: A, B, C, D, E

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION >>>>	I-1	E-1	C-1	
TYPE OF SAMPLE	G	G	G	
Flow Rate (gal/day)		D	M	
pH (units)	D/M	D/M	D/M	
Temperature (deg. C)	D/M	D/M	D/M	
Dissolved Oxygen (mg/l and % saturation)	D/M	D/M	D/M	
Electrical Conductivity	D/M	D/M	D/M	
Priority Pollutant Metals	W/Q/A	W/Q/A	W/Q/A	
EPA 602 for: Benzene Toluene Total Xylenes Ethyl Benzene	D/W	D/W	D/W	
Modified EPA 8015 for Total Petroleum Hydrocarbons as Gasoline as per SF Bay RWQCB Fuel Leak Guidelines	D/W	D/W	D/W	
EPA 624	BA	BA		
Toxicity		A		

LEGEND FOR TABLE 1

G = grab sample

D = once each day, calculated from weekly continuous flow readings.

M = once each month

D/M= daily for five days; monthly thereafter.

W/Q/A= once during the first week, then quarterly for 1 year;
annually thereafter.

D/W= sample 3 hours after system startup; every 24 hours thereafter for
five days, and weekly thereafter.

BA= once during first day of operation; biannually thereafter.

A= once during first week of operation; annually thereafter.

* EPA 602 not required for months when EPA 624 is performed.

** For discharge to recharge or sensitive biological zone.